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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,502	<b>Applicant(s)</b> CSAPO ET AL.	
	<b>Examiner</b> Marivelisse Santiago-Cordero	<b>Art Unit</b> 2687	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The references cited in the Information Disclosure Statement (IDS) filed on 9/20/04 have been considered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shin (Pub. No.: US 2002/0051432).

Regarding claim 1, Shin discloses for use in a first wireless network, a border base station capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 3, paragraph [0027]), the border base station comprising: a base station controller operable to manage communications resources within the first wireless network (Fig. 3, reference numerals 12 and 32); a first base transceiver station coupled to the base station controller (Fig. 3, reference numeral 11), the first base transceiver station operable to provide communication for a mobile station in the first wireless network (Fig. 3, reference numeral 10); and a transition base transceiver station (Fig. 3, reference numeral 31) coupled to the base station controller (Fig. 3) and located in proximity to a second base transceiver station (Fig. 3, reference numeral 21), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network (Figs. 3-4), the second base transceiver station part

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of the second wireless network (Fig. 3, reference numeral 20) and operable to provide communication for the mobile station in the second wireless network (Fig. 3).

Regarding claim 5, Shin discloses the border base station of claim 1, the first base transceiver station operable to provide communication for the mobile station in the first wireless network at a first carrier frequency (page 3, paragraph [0027]), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network at the first carrier frequency (page 3, paragraph [0038]), and the second base transceiver station operable to provide communication for the mobile station in the second wireless network at a second carrier frequency (page 3, paragraph [0027]; page 5, paragraph [0047], last sentence).

Regarding claim 6, Shin discloses a first wireless network comprising a plurality of border base stations, each one of the border base stations capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 1, paragraph [0004]), each border base station comprising: a base station controller operable to manage communications resources within the first wireless network (Fig. 3, reference numerals 12 and 32); a first base transceiver station coupled to the base station controller (Fig. 3, reference numeral 11), the first base transceiver station operable to provide communication for a mobile station in the first wireless network (Fig. 3, reference numeral 10); and a transition base transceiver station (Fig. 3, reference numeral 31) coupled to the base station controller (Fig. 3) and located in proximity to a second base transceiver station (Fig. 3, reference numeral 21), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network (Fig. 3, reference numeral 20), the second base transceiver station

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part of the second wireless network and operable to provide communication for the mobile station in the second wireless network (Fig. 3, reference numeral 20).

Regarding claim 10, Shin discloses the wireless network of claim 6, the first base transceiver station operable to provide communication for the mobile station in the first wireless network at a first carrier frequency (page 3, paragraph [0027]), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network at the first carrier frequency (page 3, paragraph [0038]), and the second base transceiver station operable to provide communication for the mobile station in the second wireless network at a second carrier frequency (page 3, paragraph [0027]; page 5, paragraph [0047], last sentence).

4. Claims 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota (Pub. No.: US 2001/0007819).

Regarding claim 11, Kubota discloses for use in a border base station in a first wireless network, a method for providing reliable hard handoffs between the first wireless network and a second wireless network, the method comprising: performing a soft handoff for a mobile station between a first base transceiver station (Fig. 4, references 52<sub>1</sub>-52<sub>4</sub>) in the first wireless network (Fig. 4; home system) and a transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) in the first wireless network (Fig. 4; the other system) (page 7, paragraph [0083]); and performing a hard handoff for the mobile station between the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) and a second base transceiver station (Fig. 4, reference 58) in the second wireless network (Fig. 4; the other system) (page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]), the transceiver base transceiver station located in proximity to the second base transceiver station (Fig. 4).

Regarding claim 13, Kubota discloses performing the hard handoff for the mobile station comprising performing the hard handoff when the mobile station reaches a border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Regarding claim 14, Kubota discloses performing the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the first base transceiver station (Fig. 4, references 52<sub>1</sub>-52<sub>4</sub>) to the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) (Fig. 4; note arrow 100; page 7, paragraph [0083]), and performing the hard handoff between the transition base transceiver station and the second base transceiver station comprising performing the hard handoff from the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) to the second base transceiver station (Fig. 4, reference 58) (Fig. 4; note arrow 100; page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 2-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Kubota.

Regarding claim 2, Shin discloses the border base station of claim 1 (see above), the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station (page 4, paragraph [0043]). Shin fails to disclose to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station.

However, Kubota, discloses, for use in a wireless network (Fig. 4; home system), a border base station capable of providing reliable hard handoffs between the first and a second wireless network (Fig. 4; the other system), the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station (Fig. 4, references 52<sub>1</sub>-52<sub>4</sub>) and the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) (page 7, paragraph [0083]) and to perform a hard handoff for the mobile station between the transition

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base transceiver station (Fig. 4, reference 52<sub>s</sub>) and the second base transceiver station (Fig. 4, reference 58) (page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station of Shin between the transition base transceiver station and the second base transceiver station as suggested by Kubota.

One of ordinary skill in this art would have been motivated to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station because it was commonly known in the art to perform a hard handoff between different systems.

Regarding claim 3, in the obvious combination, Shin discloses the base station controller operable to perform the soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Regarding claim 4, in the obvious combination, Kubota discloses the base station controller operable to perform the hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station of Shin between the



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transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region, the hard handoff region a portion of the second wireless network as suggested by Kubota because it shows a boundary in which the intensity of the pilot signals transmitted from the second base transceiver station increases (Kubota: page 7, paragraph [0084]).

Regarding claim 7, Shin discloses wireless network of claim 6 (see above), the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station (page 4, paragraph [0043]). Shin fails to disclose to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station.

However, Kubota, in the same field of endeavor, discloses the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station (Fig. 4, references 52<sub>1</sub>-52<sub>4</sub>) and the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) (page 7, paragraph [0083]) and to perform a hard handoff for the mobile station between the transition base transceiver station (Fig. 4, reference 52<sub>5</sub>) and the second base transceiver station (Fig. 4, reference 58) (page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station of Shin between the transition base transceiver station and the second base transceiver station as suggested by Kubota.

One of ordinary skill in this art would have been motivated to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station because it was commonly known in the art to perform a hard handoff between different systems.

Regarding claim 8, in the obvious combination, Shin discloses the base station controller operable to perform the soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Regarding claim 9, in the obvious combination, Kubota discloses the base station controller operable to perform the hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station of Shin between the transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region, the hard handoff region a portion of the second wireless network as suggested by Kubota because it shows a boundary in which the intensity of the pilot signals transmitted from the second base transceiver station increases (Kubota: page 7, paragraph [0084]).

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9. Claims 12, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota in view of Shin.

Regarding claim 12, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose performing the soft handoff for the mobile station comprising performing the soft handoff when the mobile station reaches an overlap region between the first wireless network and the second wireless network.

However, Shin, for use in a border base station in a first wireless network, capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 3, paragraph [0027]), discloses performing the soft handoff when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform the soft handover of Kubota when the mobile station reaches an overlap region between the first wireless network and the second wireless network as suggested by Shin.

One of ordinary skill in this art would have been motivated to perform the soft handover when the mobile station reaches an overlap region between the first wireless network and the second wireless network because the pilot signal from the it shows a boundary in which the intensity of the pilot signals transmitted from the transition base transceiver station increases (Shin: page 4, paragraph [0043]).

Regarding claim 16, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose further comprising: providing communication for the mobile station at a first carrier

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frequency in the first wireless network; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network.

However, Shin, in the same field of endeavor, discloses providing communication for the mobile station at a first carrier frequency in the first wireless network (Fig. 4; page 3, paragraph [0039]); and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network (Fig. 4; page 3, paragraph [0039]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to provide communication for the mobile station at a first carrier frequency in the first wireless network of Kubota; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network as suggested by Shin.

One of ordinary skill in this art would have been motivated to provide communication for the mobile station at a first carrier frequency in the first wireless network; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network because it would assist the progress of choosing which handoff to incorporate.

Regarding claim 17, in the obvious combination, Shin discloses providing communication for the mobile station at the first carrier frequency in the first wireless network comprising providing communication for the mobile station at the first carrier frequency with the first base transceiver station (page 3, paragraphs [0035]-[0036]; page 5, paragraph [0047], last sentence).

Regarding claim 18, in the obvious combination, Shin discloses providing communication for the mobile station at the first carrier frequency in the second wireless network comprising providing communication for the mobile station at the first carrier frequency with the transition base transceiver station (page 3, paragraph [0039]).

Regarding claim 19, in the obvious combination, Shin discloses providing communication for the mobile station at the second carrier frequency in the second wireless network comprising providing communication for the mobile station at the second carrier frequency with the second base transceiver station (page 3, paragraphs [0035] and [0037]; page 5, paragraph [0047], last sentence).

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota.

Regarding claim 15, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose performing the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the transition base transceiver station to the first base transceiver station, and performing the hard handoff between the transition base transceiver station and the second base transceiver station comprising performing the hard handoff from the second base transceiver station to the transition base transceiver station.

However, it would have been obvious to one of ordinary skill in this art at the time the invention was made to perform the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the transition base transceiver station to the first base transceiver station, and performing the hard handoff between the transition base transceiver station and the second base transceiver station comprising

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performing the hard handoff from the second base transceiver station to the transition base transceiver station because the mobile station may be in constant movement; consequently, returning through the same path to the home system.


*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kito (Patent No.: 6,608,823) discloses a supplementary base station in CDMA system and Matsumoto et al. (Pub. No.: 2002/0132628) discloses a handoff control method.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SONNY TRINH  
PRIMARY EXAMINER